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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/908,727	07/20/2001	Hisashi Ohtani	740756-2328	8954

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EXAMINER	
BOOTH, RICHARD A	

ART UNIT	PAPER NUMBER
2812	

DATE MAILED: 03/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/908,727	OHTANI ET AL.	
	Examiner	Art Unit	
	Richard A. Booth	2812	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *2/2/06*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-56* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-56* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 1-18 and 25-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morosawa, JP 07-038113.

Morosawa shows the invention as claimed including a method of manufacturing a semiconductor device comprising the steps of: forming a semiconductor film comprising silicon (2 3) over a substrate (see Drawing 1, Examples and abstract); oxidizing by thermal oxidation a surface of the semiconductor film to form an oxide thereon; irradiating said semiconductor film with laser light for crystallizing said semiconductor

film so that the oxide is in contact with the semiconductor film (see Examples Paragraph 009); removing an oxide film from the surface of the semiconductor film by etching using hydrofluoric acid; leveling the surface of the semiconductor film by heating in a nitrogen atmosphere with a concentration less than 10ppm oxygen (see, for example, paragraphs 7 or 10); forming a gate insulating film on the semiconductor film after leveling the surface of the semiconductor film (see the English translation in paragraphs 0007 to 0016).

Morosawa does not expressly disclose leveling the surface of the semiconductor film after removing an oxide film and that the semiconductor film is used in one of the mentioned devices. With respect to the leveling step being performed after the removal step, the selection of any order of performing process steps is prima facie obvious in the absence of new or unexpected results (see In re Burhans, 154 F.2d 690, 69 USPQ 330 (CCPA 1946)). Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the primary reference of Morosawa so as to have the semiconductor film be a part of one of the mentioned devices because commonly semiconductor devices containing semiconductor films are a part of these devices.

Concerning claims 33-50, note that the patterning of the semiconductor film is performed after leveling the semiconductor film.

Claims 19-24 and 51-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morosawa, JP 07-038113 as applied to claims 1-18 and 25-50 above, and further in view of Nakajima et al., U.S. Patent 5,712,191.

Morosawa is applied as above but fails to expressly disclose the laser light having a line shaped cross section elongated in one direction.

Nakajima et al. discloses a laser light having a line shaped cross section elongated in one direction (see col. 8-lines 38-50). In view of this disclosure, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the process of Morosawa so as to include the laser light of Nakajima et al. because Nakajima et al. shows such a laser light to be suitable for irradiating semiconductor films.

Response to Arguments

Applicant's arguments filed 2/2/06 have been fully considered but they are not persuasive. Applicant argues that Morosawa does not show the leveling step as claimed. However, the examiner respectfully contends that both paragraphs 007 and 0010 disclose heating steps that are equivalent to the claimed leveling steps. With respect to the order of processing steps, the selection of any order of performing process steps is prima facie obvious in the absence of new or unexpected results.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard A. Booth whose telephone number is (571) 272-1668. The examiner can normally be reached on Monday-Thursday from 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Lebentritt can be reached on (571) 272-1873. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Richard A. Booth
Primary Examiner
Art Unit 2812

March 22, 2006